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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF		:
KLAUS SCHULTES, ET AL.		: GROUP: 1796
SERIAL NO: 10/575,929		:
FILED:	APRIL 14, 2006	: EXAMINER: REDDY, K.
FOR:	POLYMER BLEND FOR MATTE INJECTION MOULDED PARTS	:

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

The following is an appeal to the Board of Appeals concerning the decision by the Examiner to continue the rejection of pending Claims 24-30 and 32-47 of the above-identified application.

REAL PARTY IN INTEREST

ROEHM GMBH & Co, KG is the real party in interest in the present application.

RELATED APPEALS AND INTERFERENCES

There are no applications on appeal or in interference at the Board of Appeals and Interferences that are related to the present application.

STATUS OF CLAIMS ON APPEAL

Claims 1-23 have been canceled. Claim 31 has been objected to. Claims 24-30 and 32-47 are pending and are on appeal.

STATUS OF AMENDMENTS

An RCE with an amendment was filed in response to the final Office Action of October 17, 2008. Thereafter, a non-final Official Action was mailed February 12, 2009 to which a response has not been filed.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is directed to a polymer mixture comprising a) a polymer matrix which consists essentially of:

i) a (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C; or

ii) a mixture of (meth)acrylate (co)polymers with a Vicat softening point (ISO 306-B50) of at least 104° C; or

iii) a (meth)acrylimide (co)polymer; or

iv) mixtures of a (meth)acrylimide (co)polymer (iii) with (i) or (ii);

b) an impact modifier which is based on crosslinked poly(meth)acrylates and which is not covalently bonded to the polymer matrix a);

c) from 1 to 15 % by weight of plastics particles composed of crosslinked polymers based on polymethyl methacrylate, on polystyrene and/or on polysilicones, with a median particle size in the range from 1 to 30 μm,

wherein the amounts of a), b) and c) sum to a total weight of 100 % by weight, and

wherein the polymer mixture may also comprise conventional additives, auxiliaries and/or fillers, and a test specimen injection-moulded from the polymer mixture simultaneously has the following properties:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.

Support for the invention as claimed can be found on page 6 to page 7, line 3 and page 4, lines 4-8 of the specification.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 24-26, 28-31, 33-40 and 42 stand properly rejected based on the grounds of obviousness-type double patenting over Claims 1-3 and 6-12 of copending application Serial No. 11/813,946 in view of Lichtenstein et al, U. S. Patent 5,621,028.

Whether Claims 24-37, 39, 42-46 stand properly rejected based on 35 USC 103(a) as obvious over Kress et al, U. S. Patent 4,895,898 in view of Lichtenstein et al, U. S. Patent 5,621,028.

Whether Claim 41 stands properly rejected based on 35 USC 103(a) as obvious over Kress et al, U. S. Patent 4,895,898 in view of Lichtenstein et al, U. S. Patent 5,621,028 further in view of Parker, U. S. Patent 5,252,667.

Whether Claims 24-26, 28 and 29 stand properly rejected based on 35 USC 103(a) as obvious over Albrecht, U. S. Patent 4,833,221 in view of Suetterlin et al, U. S. Patent 4,513,118 and in view of Lichtenstein et al, U. S. Patent 5,621,028.

Whether Claims 33 and 36 stand properly rejected based on 35 USC 103(a) as obvious over Kress et al, U. S. Patent 4,895,898 in view of Lichtenstein et al, U. S. Patent 5,621,028 further in view of Albrecht, U. S. Patent 4,833,221.

Whether Claims 34 and 38 stand properly rejected based on 35 USC 103(a) as obvious over Kress et al, U. S. Patent 4,895,898 in view of Lichtenstein et al, U. S. Patent 5,621,028 further in view of Suetterlin et al, U. S. Patent 4,513,118.

Whether Claim 40 stands properly rejected based on 35 USC 103(a) as obvious over Kress et al, U. S. Patent 4,895,898 in view of Lichtenstein et al, U. S. Patent 5,621,028 further in view of Suetterlin et al, U. S. Patent 4,513,118.

Whether Claims 24, 26, 27 and 47 stand properly rejected based on 35 USC 103(a) as obvious over Rhein et al, EP 0 691 351 A1 in view of Suetterlin et al, U. S. Patent 4,513,118 and Lichtenstein et al, U. S. Patent 5,621,028.

ARGUMENT

Obviousness-type Double Patenting

Claim Rejection: Claims of copending application S. N. 11/813,946 in view of Lichtenstein et al (Claims 24-26, 28-31, 33-40 and 42)

The polymer mixture that is claimed in the copending case is formulated of three different (meth)acrylate copolymers (a), (c) and (d) and a cross-linked poly(meth)acrylate (b) as an impact modifier. The first (meth)acrylate copolymer (a) is a low molecular weight copolymer that is formed by the copolymerization of methyl methacrylate, styrene and maleic anhydride and has a solution viscosity ($CHCl_3$) at 25° C of ≤ 55 ml/g. The second (meth)acrylate copolymer (c) is a relatively high molecular weight (meth)acrylate (co)polymer that is stated as having a solution viscosity ($CHCl_3$) at 25° C of ≥65 ml/g. The third relatively high molecular weight (meth)acrylate copolymer (d) is stated as having a solution viscosity ($CHCl_3$) at 25° C ranging from 50 to 55 ml/g. The polymer composition also comprises an impact modifier (b) which is a cross-linked poly(meth)acrylate

(co)polymer. (Co)polymer components (a), (c) and (d) constitute the polymer matrix component of the claimed polymer mixture.

The claims of the present invention are quite different from the claimed subject matter of the copending case. The matrix (co)polymer component (a) of the present composition is selected from one of four copolymer components (i), (ii), (iii) or (iv). (Co)polymer components (iii) and (iv) are based on (meth)acrylimide polymers, and therefore on this basis alone, one-half of the scope of the present claims is in no way obvious over the claims of the copending case which do not contain (meth)acrylimide copolymer. As to polymer components (i) and (ii) of the present claims, although they are (meth)acrylate based, the (co)polymer materials are defined in terms of having a Vicat softening point of at least 104° C. On the other hand, the (meth)acrylate components (a), (c) and (d) of the copending case are only characterized by their solution viscosity values at 25° C as set forth in the claims. Obviously, the Vicat softening point and solution viscosity are not the same or related properties. Accordingly, it can not be stated that the claims of the copending case meet the requirements of matrix components (i) and (ii) of the present claims. In this connection, it is noted that claim 1 of the copending case recites a Vicat softening point of at least 110° C. However, this softening point value is of a specimen of the product that has been prepared, and is not of a poly(co)(meth)acrylate matrix polymer (i) or (ii) of the present claims.

It is significant to point out here that it is the combination of components (a), (b) and (c) that give rise to a polymer mixture that when injection molded results in articles that are characterized by the following properties which are:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.

The claims of the copending application, however, do not contain this set of property values. It is therefore clear that the subject matter of the claims of the copending application is quite different from Claims 24-26, 28-31, 33-40 and 42 of the present application. The double patenting ground of rejection therefore can not be properly maintained.

The deficiencies of the claims of the '946 application, however, are not overcome or improved upon by Lichtenstein et al. The patent discloses a light scattering poly(meth)acrylate resin in which is incorporated light scattering, cross-linked polymer particles, UV protectant agents and radical scavengers. However, the disclosure of a resin containing light scattering particles in no manner overcomes the differences stated above between the present invention as claimed and the claims of the '946 application with respect to the polymer components of the molding compositions. Accordingly, withdrawal of the rejection is respectfully requested.

Prior Art Rejection: Kress et al in view of Lichtenstein et al (Claims 24-37, 39, 42-46)

As stated on the record previously, Kress et al, discloses a thermoplastic polymer molding composition that is fundamentally different from that which is presently claimed. The composition disclosed is formed from four components identified as (A), (B), (C) and (D) (col 6, lines 44-54). It is clear from the disclosure in column 1 of the patent that a basic component of the molding composition is a matrix thermoplastic polycarbonate material (A), which is a major component of the composition at 20 to 80 parts by weight. On the other hand, the polymer mixture of the present claims does **not** contain such a polycarbonate matrix polymer, but rather one of the (co)polymer components i) to iv). These (co)polymers are either poly(meth)acrylates or polymers based on (meth)acrylimide. There is absolutely no disclosure in Kress et al of a matrix copolymer material other than the polycarbonates described. The patent provides the skilled artisan with absolutely **no** motivation to change the matrix (co)polymer material of the composition of the patent from a polycarbonate to a

(meth)acrylate/(meth)acrylimide. Further, the closed language of "consisting essentially of" is also believed sufficient to exclude a major polymer component such as the polycarbonate disclosed by Kress et al from the present molding composition as the inclusion of such a polymer material in the present molding composition would completely change the nature and characteristics of the resultant molded product.

The polymer composition of the Kress et al patent also has a component (B), which constitutes from 10-60 parts by weight of the polymer mixture and is a rubbery material that is formed by graft polymerizing a mixture of one or more ethylenically unsaturated monomers identified as (B1.1) and one or more ethylenically unsaturated monomers identified as (B1.2) onto a rubber that has a glass transition temperature of less than 10° C. (Each of the mixed monomer materials include methyl methacrylate as a possible monomer.) Suitable rubbers are disclosed in the paragraph bridging columns 4 and 5 of the patent. On the other hand, no such graft (co)polymer system is employed as a component of the present composition. The impact modifier of the present claims is a cross-linked poly(meth)acrylate which is not covalently bonded to the (meth)acrylate/(meth)acrylimide polymer matrix.

Further, the polymer composition of the patent contains two components (C) and (D), neither of which is within the scope of components b) and c) of the present claims.

The Lichtenstein et al patent has been cited for its disclosure of plastic particles to a polymer matrix comprised of at least 80 % of units of methyl methacrylate. The plastic particles are incorporated in the methacrylate matrix resin in order to introduce the light-scattering effect desired into the methacrylate molded product. This function of light scattering, because of the incorporation of particles into the resin composition, does not overcome or improve upon the deficiencies of Kress et al with respect to the compositional requirements of the present claims. Moreover, it is not evident at all that a molded product obtained from a polymer composition as described by Kress et al would have the roughness,

the gloss and softening point values of the present claims, as described above. The combined references do not suggest the invention as claimed.

Claim 41 Rejection: Kress et al in view of Lichtenstein et al in view of Parker

Claim 41 is directed to the aspect of the invention in which the (meth)acrylate/(meth)acrylimide polymer mixture that is to be molded is in the form of a pelletized molding composition. On the other hand, Parker is completely irrelevant to the present invention, because it is directed to the specific discovery that the addition of certain copolymers of acrylic or methacrylic monomers bearing acid functionality (possibly in partially neutralized form) to PVC or copolymers of polyvinyl chloride at low levels results in a lowered melt viscosity of the chlorinated polymer, yet allows for good fluxing and melt performance, as well as exhibiting desirable physical properties when the blend of polymer materials is cooled. None of this is germane to the present invention. Parker in no manner whatsoever motivates the skilled artisan to the present invention as claimed via such a disclosure. The present invention in no manner, shape or form has anything to do with (meth)acrylate polymer, in relatively low amounts, as a physical property modifier of chlorinated polymers. Since the cited Kress et al and Lichtenstein et al patents in combination are believed insufficient to motivate one of skill in the art to the present invention, it is clear that the cited combination of patents does not suggest the invention as claimed.

Claim Rejection: Albrecht in view of Suetterlin et al in view of Lichtenstein et al (Claims 24-26, 28 and 29)

The Albrecht patent discloses a molding composition prepared by copolymerizing methyl methacrylate, at least one aromatic vinyl compound and maleic anhydride. This molding composition is not the claimed composition of the present invention. In fact, the

patent is directed to a limited copolymer that is *distinguished by having a higher heat distortion point and a lower susceptibility to stress cracking* (see col 1, lines 9-13). The presence of the styrenic monomer and the maleic anhydride in the copolymer is for the specific purpose of improving these stated physical properties of molded polymethyl methacrylate. In other words, the incorporation of units of a styrenic monomer and maleic anhydride is the way the patent teaches to improve upon the characteristics of polymethylmethacrylate homopolymer when subjected to thermal and physical stress. The patent does not teach or suggest the presence of an impact modifying agent in a polymethylmethacrylate molding material. In the matter of the presence of an impact modifier in a methacrylate polymer, the Suetterlin et al patent does disclose a core/shell polymer which is comprised of a hard non-elastomeric core, an elastomeric intermediate stage about the core which is essentially comprised of an acrylic ester and a cross-linking monomer, and a hard outer non-elastomeric final stage. This three-tiered polymer structure, as an impact modifier, is meant primarily for admixture with a "hard and brittle synthetic resin" for the purpose for improving the strength characteristics of a polymethyl methacrylate based resin (col 1, lines 5-9). It must be observed, therefore, that the methods taught by the two references in preparing a polymethyl methacrylate of improved stress resistant properties are quite different in that Albrecht teaches the presence of comonomer units of maleic anhydride and styrenic monomer in the methyl methacrylate polymer, while Suetterlin et al requires the use of the above-described, three-tiered (core/shell) methacrylate based polymer as an additive to a (meth)acrylate (co)polymer as the means of improving the stress resisting characteristics of the (co)polymer. Thus, it is clear that one of skill in the art would not be motivated by the Albrecht disclosure to completely change the method taught therein to produce a different (meth)acrylate polymer and modify its properties by using a core/shell polymer an additive to the (co)polymer in order to improve its stress resisting properties.

Also standing against the combination of Albrecht and Suetterlin et al is the fact that the formulation of the present invention provides an injection molded article that is characterized by the following properties which are:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.

Neither the Albrecht nor Suetterlin et al patent shows or suggests these characteristics of a methyl (meth)acrylate copolymer to which has been added a certain impact modifier and a polymethyl (meth)acrylate, a polystyrene and/or polysilicone, as is clear from the discussion above. Rather, the patents appear to only disclose moldable (meth)acrylate polymers that have improved thermal and mechanical stress characteristics.

Appellants continue to believe that the Lichtenstein et al patent is of secondary interest to the issues in the present case in that its disclosure of plastic particles added to a polymer matrix comprised of at least 80 % of units of methyl methacrylate for the purpose of introducing a light-scattering effect into the methacrylate molded product is not a feature on which the patentability of the present invention rests.

Prior Art Rejection: Kress et al in view of Lichtenstein et al further in view of Albrecht (Claims 33 and 36)

Since Claims 33 and 36 each ultimately depend upon the subject matter of Claim 24, the two claims necessarily are distinguished from the combined disclosures of Kress et al and Lichtenstein et al for the reasons stated above.

Albrecht does not improve upon the rejection of the claims, because as seen above, Albrecht teaches improvement in the thermal and mechanical stress characteristics by preparing a polymethyl methacrylate that contains comonomer units of maleic anhydride and

a styrenic monomer. On the other hand, Kress et al clearly teaches no such method or similar method. Kress et al is concerned only with a modified polycarbonate material which contains the specific graft copolymer described therein in which the comonomer units (B.1.1) and (B1.2) are grafted onto rubber. The thermoplastic is completed by being mixed with a thermoplastic copolymer (C), which may, but not necessarily, contain methyl methacrylate units and a minor amount of a copolymer (D) primarily based on a combination of monomers (D.1) and (D.2). The purpose of the reference is to prepare a polycarbonate of improved processability.

Prior Art Rejection: Kress et al in view of Lichtenstein et al further in view of Suetterlin et al (Claims 34 and 38)

Claim 34 is directed to an impact modifier component (e) of the polymer mixture of Claim 30, and as such is simply identified as having a two- or three-shell structure. Neither Kress et al nor Lichtenstein et al shows such a polymeric impact modifier. Further, the combination of these two references does not suggest the present invention as claimed as it is directed to the specific polymeric materials described in Claims 24 and 30. Thus, the disclosure of Suetterlin et al of a specific impact modifier does not overcome or improve upon the teachings of the two patents.

Claim 38 is directed to a specific (meth)acrylate (co)polymer identified as component (g) in Claim 30. Neither Kress et al nor Lichtenstein et al is relevant to a several (meth)acrylate containing copolymer material of which a minor component is the (meth)acrylate (co)polymer having the stated solution viscosity and softening point characteristics of Claim 30. The Suetterlin et al patent does not overcome this deficiency in its disclosure of a certain core/shell impact modifying agent for (meth)acrylate polymers. Accordingly, withdrawal of the rejection of the claims is respectfully requested.

Prior Art Rejection: Kress et al in view of Lichtenstein et al and Suetterlin et al further in view of NieSsner (Claim 40)

Claim 40 is directed to a minor aspect of the invention upon which patentability does not depend, as it is concerned with a mold release agent. Further, the cited combination of patents does not overcome the deficiencies of the listed prior art references used ultimately to reject the features of Claims 24 and 30. Accordingly, withdrawal of the rejection is respectfully requested.

Claim Rejection: Rhein et al in view of Suetterlin et al and Lichtenstein et al (Claims 24, 26, 27 and 47)

The Rhein et al disclosure describes a continuous process of producing a thermoplastic molding compound by polymerizing a mixture of methyl methacrylate, and optionally lower alkyl acrylates, in the presence of a mercaptan chain transfer agent and a radical initiator. The polymerization is continuously polymerized to a conversion of 40 to 80 % and a continuous removal of part of the polymerization mixture and degassing of volatile components to form a melt. From this description of the reference it is clear that the disclosure of Rhein et al provides absolutely no teaching or suggestion of the claimed mixture of the present invention. That is, there is no teaching of mixing one of the four specific types of (co)polymer mixtures (i) to (iv) of Claim 24 with a certain cross-linked (meth)acrylate copolymer which is not covalently bonded to the polymer matrix as an impact modifier and plastic particles formed of polymethyl (meth)acrylate, a polystyrene and/or a polysilicone. Further, the disclosures of Sutterlin et al and Lichtenstein et al do not overcome the deficiencies of the Rhein et al disclosure for much the same reasons stated above. Rhein et al does not require the presence of an (meth)acrylate impact modifier in the composition

produced nor the presence of plastic particles. Accordingly, the combination of references does not suggest the invention as claimed.

In view of the comments above appellants continue to believe that the decision by the Examiner to continue the rejection of the claims is erroneous and should be REVERSED.

Respectfully submitted,

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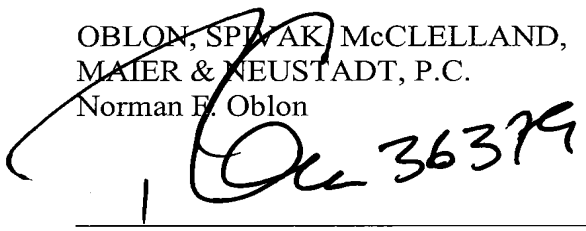

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CLAIM APPENDIX

Claim 24. A polymer mixture, comprising:

a) a polymer matrix which consists essentially of:

i) a (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C; or

ii) a mixture of (meth)acrylate (co)polymers with a Vicat softening point (ISO 306-B50) of at least 104° C; or

iii) a (meth)acrylimide (co)polymer; or

iv) mixtures of a (meth)acrylimide (co)polymer (iii) with (i) or (ii);

b) an impact modifier which is based on crosslinked poly(meth)acrylates and which is not covalently bonded to the polymer matrix a);

c) from 1 to 15 % by weight of plastics particles composed of crosslinked polymers based on polymethyl methacrylate, on polystyrene and/or on polysilicones, with a median particle size in the range from 1 to 30 μm,

wherein a), b) and c) give a total of 100 % by weight, and

wherein the polymer mixture may also comprise conventional additives, auxiliaries and/or fillers, and a test specimen injection-moulded from the polymer mixture simultaneously has the following properties:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.

Claim 25. The polymer mixture according to Claim 24, wherein the components are present with the following quantitative proportions:

a) from 25 to 75 % by weight;

b) from 5 to 60 % by weight; and

c) from 1 to 15 % by weight.

Claim 26. The polymer mixture according to Claim 24, wherein the impact modifier b) has a two- or three-shell structure.

Claim 27. A polymer mixture according to Claim 24, wherein the polymer matrix a) consists essentially of a (meth)acrylate (co)polymer composed of 96 to 100 % by weight of methyl methacrylate and 0 to 4 % by weight of methyl acrylate, ethyl acrylate and/or butyl acrylate.

Claim 28. The polymer mixture according to Claim 24, wherein the polymer matrix a) is a copolymer consists essentially of methyl methacrylate, styrene and maleic anhydride.

Claim 29. The polymer mixture according to Claim 28, wherein the polymer matrix a) is a copolymer consisting essentially of:

from 50 to 90 % by weight of methyl methacrylate;

from 10 to 20 % by weight of styrene; and

from 5 to 15 % by weight of maleic anhydride.

Claim 30. The polymer mixture according to Claim 24, wherein the constituents polymer matrix material a) and impact modifier material b) of the polymer mixture are introduced individually or in the form of a compounded material into the polymer mixture, wherein the polymer matrix material a) is one or more of the following poly(meth)acrylate components d), f) and g) and that impact modifier b) is impact modifier e):

d) a low-molecular-weight (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C, characterized by a solution viscosity in chloroform at 25° C (ISO 1628 – Part 6) smaller than or equal to 55 ml/g;

e) an impact modifier based on crosslinked poly(meth)acrylates;

f) a relatively high-molecular-weight (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C, characterized by a solution viscosity in chloroform at 25° C (ISO 1628 – Part 6) smaller than or equal to 65 ml/g; and/or

g) a (meth)acrylate (co)polymer other than d) with a Vicat softening point (ISO 306-B50) of at least 104° C, characterized by a solution viscosity in chloroform at 25° C (ISO 1628 – Part 6) of 50 to 55 ml/g;

wherein each of the components d), e), f) and/or g) may be an individual polymer or else a mixture of polymers,

wherein d), e), f) and/or g) give a total of 100 % by weight;

wherein the polymer mixture optionally comprises conventional additives, auxiliaries and/or fillers; and

wherein a test specimen produced from the polymer mixture of components d), e), f) and/or g) simultaneously has the following properties:

a tensile modulus (ISO 527) of at least 2600 MPa;

a Vicat softening point (ISO 306-B50) of at least 109° C;

an impact strength (ISO 179-2D, flatwise) of at least 17 kJ/m^2; and

a melt index (ISO 1133, 230° C/3.8 kg) of at least 1.5 $cm^3/10$ min.

Claim 31. The polymer mixture according to Claim 30, wherein the components are present with the following quantitative proportions and give a total of 100 % by weight:

d) from 25 to 75 % by weight;

e) from 10 to 60 % by weight;

f) and/or g) from 10 to 50 % by weight.

Claim 32. The polymer mixture according to Claim 30, wherein component d) is a copolymer composed of methyl methacrylate, styrene and maleic anhydride.

Claim 33. The polymer mixture according to Claim 32, wherein component d) is a copolymer composed of:

50 to 90 % by weight of methyl methacrylate;

10 to 20 % by weight of styrene; and

5 to 15 % by weight of maleic anhydride.

Claim 34. The polymer mixture according to Claim 30, wherein component e) has a two- or three-shell structure.

Claim 35. The polymer mixture according to Claim 30, wherein component f) is a copolymer composed of methyl methacrylate, styrene and maleic anhydride.

Claim 36. The polymer mixture according to Claim 35, wherein component f) is a copolymer composed of:

50 to 90 % by weight of methyl methacrylate;

10 to 20 % by weight of styrene; and

5 to 15 % by weight of maleic anhydride.

Claim 37. The polymer mixture according to Claim 30, wherein component g) is a homopolymer or copolymer composed of at least 80 % by weight of methyl methacrylate and, optionally, up to 20 % by weight of other monomers copolymerizable with methyl methacrylate.

Claim 38. The polymer mixture according to Claim 37, wherein component g) is a copolymer composed of 95 to 99.5 % by weight of methyl methacrylate and 0.5 to 5 % by weight of methyl acrylate, ethyl acrylate and/or butyl acrylate.

Claim 39. The polymer mixture according to Claim 24, wherein a lubricant is present as an auxiliary.

Claim 40. The polymer mixture according to Claim 38, wherein stearyl alcohol is present as a mould-release agent.

Claim 41. The polymer mixture according to Claim 24, wherein the polymer mixture takes the form of a pelletized moulding composition.

Claim 42. A process for producing an injection moulded article, which comprises:

injection molding the polymer mixture according to Claim 24 into the shape of an object.

Claim 43. An injection moulded article as prepared by the process according to Claim 42.

Claim 44. The injection moulding according to Claim 42, wherein the injection moulded article has a roughness value Rz to DIN 4768 of at least 0.7 μm, a gloss (R 60°) to DIN 67530 of at most 40 and a Vicat softening point (ISO 306-B50) of at least 90° C.

Claim 45. The injection moulded article according to Claim 42, wherein the injection moulded article has one or more of the following properties:

a tensile modulus (ISO 527) of at least 2600 MPa;

a Vicat softening point (ISO 306-B50) of at least 108° C;

an impact strength (ISO 179-2D, flatwise) of at least 10 kJ/m^2; and

a melt index (ISO 1133, 230°C/3.8 kg) of at least 0.5 $cm^3/10$ min.

Claim 46. The injection moulded article according to Claim 42, wherein the injection moulded article is a part of a household appliance, communication device, device for hobbies or sports, or a bodywork part or a part of bodywork parts in the construction of automobiles, ships or aircraft.

Claim 47. A polymer mixture, consisting essentially of:

a) a polymer matrix which is composed of:

i) a (meth)acrylate (co)polymer with a Vicat softening point (ISO 306-B50) of at least 104° C; or

ii) a mixture of (meth)acrylate (co)polymers with a Vicat softening point (ISO 306-B50) of at least 104° C; or

iii) a (meth)acrylimide (co)polymer; or

iv) mixtures of a (meth)acrylimide (co)polymer (iii) with (i) or (ii);

b) an impact modifier which is based on crosslinked poly(meth)acrylates and which does not have covalent bonding to the polymer matrix a);

c) from 1 to 15 % by weight of plastics particles composed of crosslinked polymers based on polymethyl methacrylate, on polystyrene and/or on polysilicones, with a median particle size in the range from 1 to 30 μm,

wherein a), b) and c) give a total of 100 % by weight, and

wherein the polymer mixture may also comprise conventional additives, auxiliaries and/or fillers, and a test specimen injection-moulded from the polymer mixture simultaneously has the following properties:

a roughness value R_z to DIN 4768 of at least 0.7 μm;

a gloss (R 60°) to DIN 67530 of at most 40; and

a Vicat softening point (ISO 306-B50) of at least 90° C.

EVIDENCE APPENDIX

No evidence has been submitted of record into the present record upon which appellants rely for consideration in the appeal under the provisions of § § 1.130, 1.131 or 1.132 of this title.

RELATED PROCEEDINGS APPENDIX

No copy of a decision rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) is enclosed.